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(54) Title: DIAMOND BONDING

(57) Abstract: A method of producing a bonded structure which includes a layer of material capable of forming a diffusion or diffusion-type bond with diamond bonded to a diamond element. The method includes the step of applying electron beam heating to a localised region of contacting surfaces between the diamond and the layer of material, or the layer of material and a surface of a metal element or structure to cause bonding of at least some of the contacting surfaces in that region. The method has particular application to the bonding of a layer of diamond to a frame or mount.